The Bloom Energy Server 5

Using solid oxide fuel cell technology, Bloom Energy Servers convert natural gas, biogas, or hydrogen into electricity at high efficiency and without combustion, significantly reducing environmental impacts.

Bloom Energy’s solid oxide fuel cell (SOFC) platform provides an electrochemical pathway to convert fuel directly to electricity without combustion. Our systems can run on natural gas, biogas, and hydrogen, and our modular platform approach provides a pathway to upgrade existing systems to align with the sustainability goals of our customers over time.

Bloom is working with two leading non-profit organizations, MiQ and Equitable Origin, to help set a responsible standard for sourcing natural gas. Responsibly sourced gas is natural gas whose production has been evaluated across a range of stringent social, environmental, and governance criteria, including climate, community, and labor issues, to ensure that the highest standards and best practices were used to minimize greenhouse gases across its entire value chain.

Clean
Our systems produce near zero criteria pollutants (NOx, SOx, and particulate matter) and far fewer carbon emissions than legacy technologies.

Reliable
Bloom Energy Servers are designed around a modular architecture of simple repeating elements. This enables us to generate power 24 x 7 x 365 and can be configured to eliminate the need for traditional backup power equipment.

Resilient
Our system operates at very high availability due to their fault-tolerant design and use of the robust natural gas pipeline system. Bloom Energy Servers have survived extreme weather events and other incidences and have continued providing power to our customers.

Simple Installation and Maintenance
Our Energy Servers are 'plug and play' and have been designed in compliance with a variety of safety standards. Bloom Energy manages all aspects of installation, operation and maintenance of the systems.
Specifications

Outputs

Nameplate power output (net AC) — 300 kW
Load output (net AC) —— 300 kW
Electrical connection ———— 480V, 3-phase, 60 Hz

Inputs

Fuels ———— Natural gas, directed biogas
Input fuel pressure ———— 10–18 psig (15 psig nominal)
Water ———— None during normal operation

Efficiency

Cumulative electrical efficiency — 65–53% (LHV net AC)
Heat rate (HHV) ———— 5,811–7,127 Btu/kWh

Emissions

NOx ———— 0.0017 lbs/MWh
SOx ———— Negligible
CO ———— 0.012 lbs/MWh
VOCs ———— 0.01 lbs/MWh
CO₂ @ stated efficiency ———— 679–833 lbs/MWh on natural gas; carbon neutral on directed biogas

Physical Attributes and Environment

Weight ———— 15.8 tons
Dimensions (variable layouts) ———— 17’11” x 8’8” x 6’9” or 32’3” x 4’4” x 7’2”
Temperature range ———— -20° to 45° C
Humidity ———— 0%–100%
Seismic vibration ———— IBC site class D
Location ———— Outdoor
Noise ———— <70 dBA @ 6 feet

Codes and Standards

Complies with Rule 21 interconnection and IEEE1547 standards.
Exempt from CA Air District permitting; meets stringent CARB 2007 emissions standards.

An Energy Server is a Stationary Fuel Cell Power System. It is Listed by Underwriters Laboratories, Inc. (UL) as a Stationary Fuel Cell Power System to ANSI/CSA FC1-2014 under UL Category IRGZ and UL File Number MH45102.

Additional Notes

Access to a secure website to monitor system performance & environmental benefits. Remotely managed and monitored by Bloom Energy. Capable of emergency stop based on input from the site.

Flexible. Future Proof.

Accelerate your path to a net-zero future.